

REMARKS

Claims 1 - 20 and 25 - 32 are pending. Claims 2, 4, 5, 7, 8, 11, 12, 16, 19, and 26 - 30 have been amended. Claims 21 - 24 have been cancelled. No new matter has been introduced. Reexamination and reconsideration of the application are respectfully requested.

In the May 7, 2004 Office Action, the Examiner rejected claims 1, 2, 4, 5, 7, 8, 18, and 25 - 30 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,633,576 to Melaragni et al. ("the Melaragni reference"). The Examiner rejected claims 3, 6, 9, 10, 13, 14, 15, 31, and 32 under 35 U.S.C. § 103(a) as being unpatentable over the Melaragni reference and further in view of U.S. Patent No. 6,021,263 to Kuoory et al., ("the Kuoory reference"). These rejections are respectfully traversed in so far as they are applicable to the pending claims.

The Examiner objected to claims 11, 12, 16, 17, 19, and 20 as being dependent upon rejected base claims, but indicated the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 11, 12, 16 and 19 have been rewritten to include all of the limitations of the base claim and any intervening claims. Claim 17 depends directly on claim 16. Claim 20 depends directly on claim 19. Accordingly, applicants respectfully submit that claims 11, 12, 16, 17, 19, and 20 are in condition for allowance.

Independent claim 4, as amended, recites:

A method for an input and output controller, comprising:
receiving a plurality of packets;
classifying the packets according to a classification criterion; and
sending a packet bundle to a host wherein the packet bundle includes a number of packets that are uniformly classified with respect to the classification criterion.

The Melaragni reference does not disclose, teach, or suggest the method of independent claim 4. The Examiner states that the Melaragni reference (specifically reference numerals 56 and 58 and Figure 3) discloses sending a packet bundle to the host wherein the packet bundles is generated using packets that are uniformly classified with respect to the classification criterion. (*Office Action, pages 3 and 4*). The Melaragni reference discloses that a packet is received by a framer and ordered for processing. A Packet Data Manager (PDM) receives the packets from the framer, strips the PPP header and builds a 32-bit descriptor (Desc2) that is used by the Router Switch Processor (RSP) in the packet processing. The PDM prepends Desc2 to the packet and transfers the packet into one of the even or odd memory banks (step 56) and notifies the RSP that the packet is ready for processing. The RSP polls the memory to see if there are packets for processing. The RSP performs a cache-line read of 32 bytes from the packet memory to receive Desc2 and other info about the IP header (Step 58). (*Col. 6, lines 9 - 23*).

The RSP interprets Desc2 to perform a series of lookups and to process the packet. The RSP creates a new descriptor Desc3 that contains routing information to route the packet to outgoing interfaces. The RSP also includes an action tag in Desc3 that identifies a port and encapsulation context for the outgoing packet. The RSP writes Desc3 back into the header of the packet in memory. The Fabric-Ingress (FI) device reads the packet from the packet memory, merges Desc3 with the original packet in memory to product the a new descriptor Desc4. The FI-DMA device 38 transfers the packet with the new header Desc4 to the FI chip. (*Col. 6, lines 23 - 37*).

All of the operations described above in the Melaragni reference involve the creating of tags or descriptors for each of the packets. There is no disclosing of a method for an input and output controller, including **sending a packet bundle to a host** wherein **the packet bundle includes a number of packets that are uniformly classified with respect to the classification criterion**. The Melaragni reference discloses that the RSP and the FI-DMA devices generate descriptors for each packet and that each packet is processed individually, which is not the same **as a packet bundle including a number of packets**. Accordingly, applicants respectfully submit that claim 4, as amended, distinguishes over the Melaragni reference.

The Kukoory reference does not make up for the deficiencies of the Melaragni reference. The Examiner utilizes the Kukoory reference to disclose or show that packets are classified based on their session number and a priority associated with a packet. The Applicants understand the Examiner's utilization of the Kuroory reference, but the Kukoory reference does not disclose method for an input and output controller, including **sending a packet bundle to a host, the packet bundle including a number of packets that are uniformly classified with respect to the classification criterion**. There is no disclosure of a bundling of packets and a sending of a packet bundle in the Kukoory reference. Accordingly, applicants respectfully submit that claim 4, as amended, distinguishes over the Melaragni / Kukoory reference combination.

Independent claims 1, 7, 25, 27, and 29 recite limitations similar to claim 4, as amended. Accordingly, independent claims 1, 7, 25, 27, and 29 distinguish over the Melaragni / Kukoory reference combination for similar reasons as discussed above in regard to independent claim 4, as amended.

Claims 2, 3, 5, 6, 8 - 10, 26, 28, and 30 depend, directly or indirectly on independent claims 1, 4, 7, 25, 27, and 29. Accordingly, applicants respectfully submit that claims 2, 3, 5, 6, 8 - 10, 26, 28 and 30 distinguish over the Melaragni / Kuoory combination for the same reasons as discussed above in regard to independent claims 1, 4, 7, 25, 27, and 29.

Dependent claim 5 further distinguishes over the cited references. Dependent claim 5 recites:

The method according to claim 4, wherein said sending comprises:
determining the packet bundle for transfer according to a pre-determined criterion;
generating the packet bundle and its corresponding packet bundle descriptor; and
transferring the packet bundle and its corresponding packet bundle descriptor to the host.

The Melaragni reference does not disclose, teach, or suggest the method of claim 5, as amended. As discussed above, the Melaragni reference does not disclose that packets are placed in a packet bundle. The Melaragni reference discloses operations on, and descriptors added to, single packets, not bundles of packets. Accordingly, claim 5 further distinguishes over the Melaragni reference.

The Kuoory reference does not make up for the deficiencies of the Melaragni reference. The Kuoory reference is directed to management of packets in an ATM virtual circuit utilizing a resources reservation protocol. The Kuoory reference specifically discloses a classifier 110 separating packets based on their session and filterspec (destination and source addresses) as shown by 120. The packets are then channeled to a packet scheduler for processing by an output driver 140, which outputs the data at 150. There is no disclosure that the packets are **grouped together** into a

packet bundle and that a packet bundle descriptor is generated. Accordingly, applicants respectfully submit that claim 5, as amended, distinguishes over the Melaragni / Kuoory combination.

Dependent claims 2, 8, 26, 28, and 30 recite limitations similar to dependent claim 5, as amended. Accordingly, applicants respectfully submit that dependent claims 2, 8, 26, 28, and 30 further distinguish over the Melaragni / Kuoory reference combination for similar reasons as discussed above in regard to dependent claim 5, as amended.

Independent claim 18 distinguishes over the cited references. Independent claim 18 recites:

An input and output controller, comprising:
a packet receiver for receiving at least one packet; and
a classification based packet transferring mechanism for generating and transferring a packet bundle and its corresponding packet bundle descriptor to a host.

As discussed above, neither the Melaragni reference nor Kuoory reference discloses generating a packet bundle, i.e., a group of packets, and transferring the packet bundle. Each of the references discloses operations on single packets and headers attached to these packets. Accordingly, independent claim 18 distinguishes over the Melaragni / Kuoory combination.

Independent claim 13 distinguishes over the cited references. Independent claim 13 recites:

A method for a host, comprising:
receiving a packet bundle and its corresponding packet bundle descriptor;
processing the packet bundle; and
updating a packet session using the packet bundle according to the packet bundle descriptor.

The Melaragni reference discloses receiving packets one at a time and

processing the packets independently. The Kukoory reference also discloses the receiving and processing of single packets and not the receiving of a bundle of packets. This is not the same as a method for a host including **receiving a packet bundle and processing the packet bundle**. Accordingly, applicants respectfully submit that claim 13 distinguishes over the Melaragni / Kukoory combination.

Independent claims 18 and 31 recite limitations similar to claim 13. Accordingly, applicants respectfully submit that claims 18 and 31 distinguish over the Melaragni / Kukoory combination for similar reasons as discussed above in regard to independent claim 13.

Claims 14 and 32 depend, directly or indirectly, on claims 18 and 31. Accordingly, applicants respectfully submit that claims 14 and 32 distinguish over the Melaragni / Kukoory combination for the same reasons as discussed above in regard to independent claims 18 and 31.

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Applicants believe that the claims are in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call either of the undersigned attorneys at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

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